(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 788 065 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
06.08.1997 Bulletin 1997/32

(51) Int Cl.[6]: G06F 17/30

(21) Application number: 97300369.2

(22) Date of filing: 21.01.1997

(84) Designated Contracting States:
DE ES FR GB IT

(30) Priority: 02.02.1996 US 590031

(71) Applicant: Lucent Technologies Inc.
Murray Hill, New Jersey 07974-0636 (US)

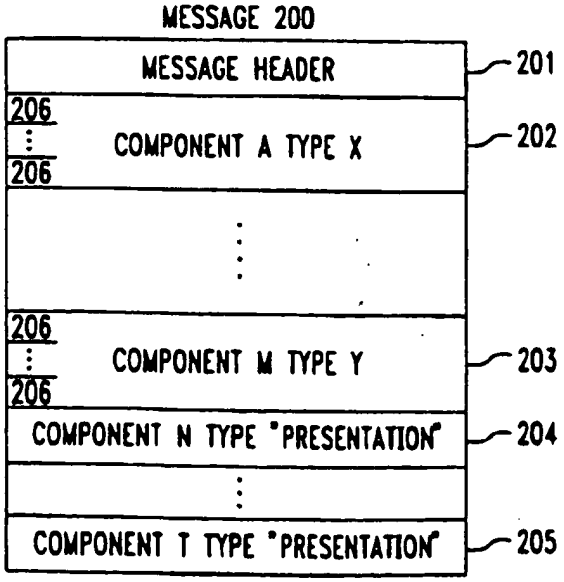
(72) Inventor: Jennings, Terry Don
Westminster, Colorado 80020 (US)

(74) Representative: Johnston, Kenneth Graham et al
Lucent Technologies (UK) Ltd,
5 Mornington Road
Woodford Green Essex, IG8 OTU (GB)

(54) Apparatus and method for specifying presentation of multimedia message components

(57) A new type of message component (204, 205) enables message creators to specify, inside of a message (200), how the body components (202-203) of the message are to be presented to message recipients; multiple such components enable multiple presentations to be specified for a single message. Included in the message by the message creator as one or more message components (204, 205) of type "presentation", each presentation component specifies the order, durations, and any concurrency, of presentation of the message's body components. Each presentation component is a script that, upon its invocation (300) by the message recipient, executes (302-318) on the recipient's message-presentation equipment (102, 107) and presents the message's body components to the message recipient in the order and for the durations specified, and presents concurrently any body components -- typically ones expressed in different media -- that are specified to be presented concurrently.

FIG. 2



EP 0 788 065 A2

Printed by Jouve, 75001 PARIS (FR)

recipient's message-presentation equipment then merely interprets or executes the presentation component in order to present the message to the message recipient in the manner desired by the message creator.

These and other advantages and features of the invention will become apparent from the following description of an illustrative embodiment of the invention taken together with the drawing.

Brief Description of the Drawing

FIG. 1 is a block diagram of a messaging network that includes an illustrative implementation of the invention;

FIG. 2 is a block diagram of a message of the messaging network of FIG. 1 that embodies an illustrative implementation of the invention;

FIG. 3 is a functional flow diagram of execution of a presentation script in response to an "execute presentation" command in the network of FIG. 1;

FIG. 4 is a functional flow diagram of execution of a "skip" command in the network of FIG. 1;

FIG. 5 is a functional flow diagram of execution of a "play" command in the network of FIG. 1; and

FIG. 6 is a functional flow diagram of execution of a "wait" command in the network of FIG. 1.

Detailed Description

FIG. 1 shows a generalized multimedia messaging network 100. It illustratively comprises a plurality of interconnected multimedia messaging systems 101-103, each of which may be the AT&T Intuity® AUDIX® system, for example. Messaging systems 101-103 are connected to multimedia workstations 106-108 of messaging-service subscribers. Each workstation 106-108 is a general-purpose computer operating under control of programs stored in its memory and executed by its processor. Each messaging system 101-103 defines mailboxes of those subscribers whom it serves. As shown in FIG. 1, workstation 106, of a human user who is assumed to be a message originator in this illustrative example, is connected to messaging system 101. Messaging system 101 is identified as the authoring system, and defines a mailbox 104 for the user of workstation 106, designated as the author's mailbox. Also, workstation 107, of a human user who is assumed to be a message recipient in this illustrative example, is connected to messaging system 102. Messaging system 102 is identified as a playback system, and defines a mailbox 105 for the user of workstation 107, designated as the recipient's mailbox. Alternatively, workstations 106 and 107 may be served by the same messaging system, in which case the authoring system and the playback system will be the same system. Each recipient's workstation 107-108 preferably includes and executes a copy of a message management (MM) 109 program, such as the AT&T Intuity Message Manager. Each messaging system 101-103 is configured conventionally: it is a stored-program-controlled machine that comprises a memory 110 for storing data (including subscriber's mailboxes) and control programs, a processor 111 for executing the control programs out of memory 110 to control the operation of the messaging system and provide messaging services, and an input and output (I/O) interface 112, typically comprising a plurality of telephone line and trunk circuits and/or local area network (LAN) or wide area network (WAN) interfaces, by means of which processor 111 communicates with the messaging network 100 that lies outside of its messaging system 101-103.

Communications between subscribers in messaging network 100 are effected in the following manner: A message author creates a message in his or her own mailbox 104 via his or her workstation 106, and then sends the message to an address or addresses of one or more message recipients. Network 100 delivers and stores the message in the mailbox 105 or mailboxes of the one or more recipients. The recipients then effect playback of the message from their mailboxes via their workstations 107-108. As described so far, messaging network 100 is conventional.

Conventionally, a multi-media message 200 (see FIG. 2) comprises a plurality of message components 201-203. The first message component is a message header 201, which carries information that describes the message, including information that defines a message presentation, followed by one or more message-body components, each expressed in one of a plurality of different media, that carry the message's information contents. The medium in which a message-body component 202-203 is expressed constitutes the component's type. Each component 202-203 may further comprise one or more records 206. A record is, for example, one page of a text or a fax component, or one image of an image component, or a scene (a plurality of frames) of a video component, etc.

According to the invention, the conventional message configuration is modified such that message header 201 no longer carries the message presentation information. Instead, there is defined a new message component type, designated as "presentation", for carrying the message presentation information. In respects other than its type, a "presentation" message component is treaded by messaging network 100 as any other message-body component. A message may include one or more "presentation" components, each defining a different presentation of the message. This message configuration is shown in FIG. 2.

Each "presentation" component 204-205 is a script that defines the sequence and duration of presentation of message-body components or components' records to the message recipient. Illustratively, the language for composing

recipient's message-presentation equipment then merely interprets or executes the presentation component in order to present the message to the message recipient in the manner desired by the message creator.

These and other advantages and features of the invention will become apparent from the following description of an illustrative embodiment of the invention taken together with the drawing.

Brief Description of the Drawing

FIG. 1 is a block diagram of a messaging network that includes an illustrative implementation of the invention;

FIG. 2 is a block diagram of a message of the messaging network of FIG. 1 that embodies an illustrative implementation of the invention;

FIG. 3 is a functional flow diagram of execution of a presentation script in response to an "execute presentation" command in the network of FIG. 1;

FIG. 4 is a functional flow diagram of execution of a "skip" command in the network of FIG. 1;

FIG. 5 is a functional flow diagram of execution of a "play" command in the network of FIG. 1; and

FIG. 6 is a functional flow diagram of execution of a "wait" command in the network of FIG. 1.

Detailed Description

FIG. 1 shows a generalized multimedia messaging network 100. It illustratively comprises a plurality of interconnected multimedia messaging systems 101-103, each of which may be the AT&T Intuity® AUDIX® system, for example. Messaging systems 101-103 are connected to multimedia workstations 106-108 of messaging-service subscribers. Each workstation 106-108 is a general-purpose computer operating under control of programs stored in its memory and executed by its processor. Each messaging system 101-103 defines mailboxes of those subscribers whom it serves. As shown in FIG. 1, workstation 106, of a human user who is assumed to be a message originator in this illustrative example, is connected to messaging system 101. Messaging system 101 is identified as the authoring system, and defines a mailbox 104 for the user of workstation 106, designated as the author's mailbox. Also, workstation 107, of a human user who is assumed to be a message recipient in this illustrative example, is connected to messaging system 102. Messaging system 102 is identified as a playback system, and defines a mailbox 105 for the user of workstation 107, designated as the recipient's mailbox. Alternatively, workstations 106 and 107 may be served by the same messaging system, in which case the authoring system and the playback system will be the same system. Each recipient's workstation 107-108 preferably includes and executes a copy of a message management (MM) 109 program, such as the AT&T Intuity Message Manager. Each messaging system 101-103 is configured conventionally: it is a stored-program-controlled machine that comprises a memory 110 for storing data (including subscriber's mailboxes) and control programs, a processor 111 for executing the control programs out of memory 110 to control the operation of the messaging system and provide messaging services, and an input and output (I/O) interface 112, typically comprising a plurality of telephone line and trunk circuits and/or local area network (LAN) or wide area network (WAN) interfaces, by means of which processor 111 communicates with the messaging network 100 that lies outside of its messaging system 101-103.

Communications between subscribers in messaging network 100 are effected in the following manner: A message author creates a message in his or her own mailbox 104 via his or her workstation 106, and then sends the message to an address or addresses of one or more message recipients. Network 100 delivers and stores the message in the mailbox 105 or mailboxes of the one or more recipients. The recipients then effect playback of the message from their mailboxes via their workstations 107-108. As described so far, messaging network 100 is conventional.

Conventionally, a multi-media message 200 (see FIG. 2) comprises a plurality of message components 201-203. The first message component is a message header 201, which carries information that describes the message, including information that defines a message presentation, followed by one or more message-body components, each expressed in one of a plurality of different media, that carry the message's information contents. The medium in which a message-body component 202-203 is expressed constitutes the component's type. Each component 202-203 may further comprise one or more records 206. A record is, for example, one page of a text or a fax component, or one image of an image component, or a scene (a plurality of frames) of a video component, etc.

According to the invention, the conventional message configuration is modified such that message header 201 no longer carries the message presentation information. Instead, there is defined a new message component type, designated as "presentation", for carrying the message presentation information. In respects other than its type, a "presentation" message component is treaded by messaging network 100 as any other message-body component. A message may include one or more "presentation" components, each defining a different presentation of the message. This message configuration is shown in FIG. 2.

Each "presentation" component 204-205 is a script that defines the sequence and duration of presentation of message-body components or components' records to the message recipient. Illustratively, the language for composing

script	comments
play image 1_record play audio_1 wait audio_1	display first slide while playing first annotation
skip 1_records play image 1_record play audio_2 wait 15_seconds	display second slide for 15 seconds and simultaneously play second annotation
skip 2_records play image 1_record wait 15_seconds	display third slide for 15 seconds
skip 3_records play image 1_record play audio_3 wait audio_3	display fourth slide while playing third annotation
•	
•	
•	

Furthermore, another presentation component 205 for presenting an abridged version of the voice-annotated slide presentation message may comprise the following script:

script	comments
skip 2_records play image 1_record wait 15_seconds	skip the first two slides and display the third slide for 15 seconds
skip 5_records play image 1_record play audio_5 wait audio_5	skip the next three slides and display the sixth slide while playing the fifth annotation
skip 3_records play image 1_record play audio_3 wait audio_3	skip back two slides and display the fourth slide while playing the third annotation
skip 13_records	skip the next 10 slides

111 sends the retained components to workstation 107, while workstation 107 distributes the retained components to its display buffer, to a fax buffer, to a printer buffer, to a sound-card buffer, etc., depending upon the type (i.e., medium) of each retained component. Workstation 107 or processor 111 then causes playback of the components to commence and starts the timer that it had set at step 604 or 608, at step 612. Workstation 107 or processor 111 monitors the timer, at step 614. When the timer expires, workstation 107 or processor 111 deletes the retained components that it had played at step 612, at step 616. This step may involve merely erasing the "playback start" and "playback stop" pointers into the message component. Following step 616, workstation 107 or processor 111 proceeds to process the next script command, at step 618.

To get a different presentation of the message, the message recipient merely selects and executes one of the other "presentation" components 204-205.

Of course, various changes and modifications to the illustrative embodiment described above will be apparent to those skilled in the art. For example, different presentation component languages may be envisioned for defining the presentation scripts. Or, a different naming convention may be used to reference components. Likewise, conventions other than "records" may be used to define presentation elements, e.g., "bytes", "sentences", and/or "pages". Furthermore, messages may be allowed to have multiple components of the same media type. Such changes and modifications can be made without departing from the spirit and the scope of the invention and without diminishing its attendant advantages. It is therefore intended that such changes and modifications be covered by the following claims.

Claims

1. A messaging (102) apparatus having means (105) for storing a message (200) comprising a header component (201) that describes the message, and a plurality of body components (202-203) each carrying a portion of message information carried by the message, CHARACTERISED IN THAT

   the message further comprises a presentation component (204) separate from the header component and the body components that defines an order and any concurrency of presentation of the body components to a message recipient; and
   the messaging apparatus further comprises
   means (111:300-318) responsive to invocation of the presentation component for presenting the body components to the message recipient in the order and with any said concurrency defined by the presentation component.

2. The messaging apparatus of claim 1 wherein:

   the message comprises a plurality of presentation components (204-205) each defining a different order or concurrency of presentation of the body components; and
   the presenting means are responsive to invocation of an individual one of the presentation components, for presenting the body components to the message recipient in the order and with any said concurrency defined by the individual one presentation component.

3. The messaging apparatus of claim 1 wherein:

   the message comprises a plurality of body components (202-203) at least some of which are expressed in different media, and the presentation component defines an order of presentation of the body components including a concurrency of presentation of the body components expressed in the different media; and
   the presenting means are responsive to the invocation of the presentation component, for presenting the body components in the order defined by the presentation component including presenting concurrently the body components expressed in the different media.

4. The messaging apparatus of claim 1 wherein:

   the presentation component further defines durations of presentation of the body components; and
   the presenting means are responsive to the invocation of the presentation component, for presenting the body components in the order and with any said concurrency for the durations defined by the presentation component.

5. The messaging apparatus of claim 1 wherein:

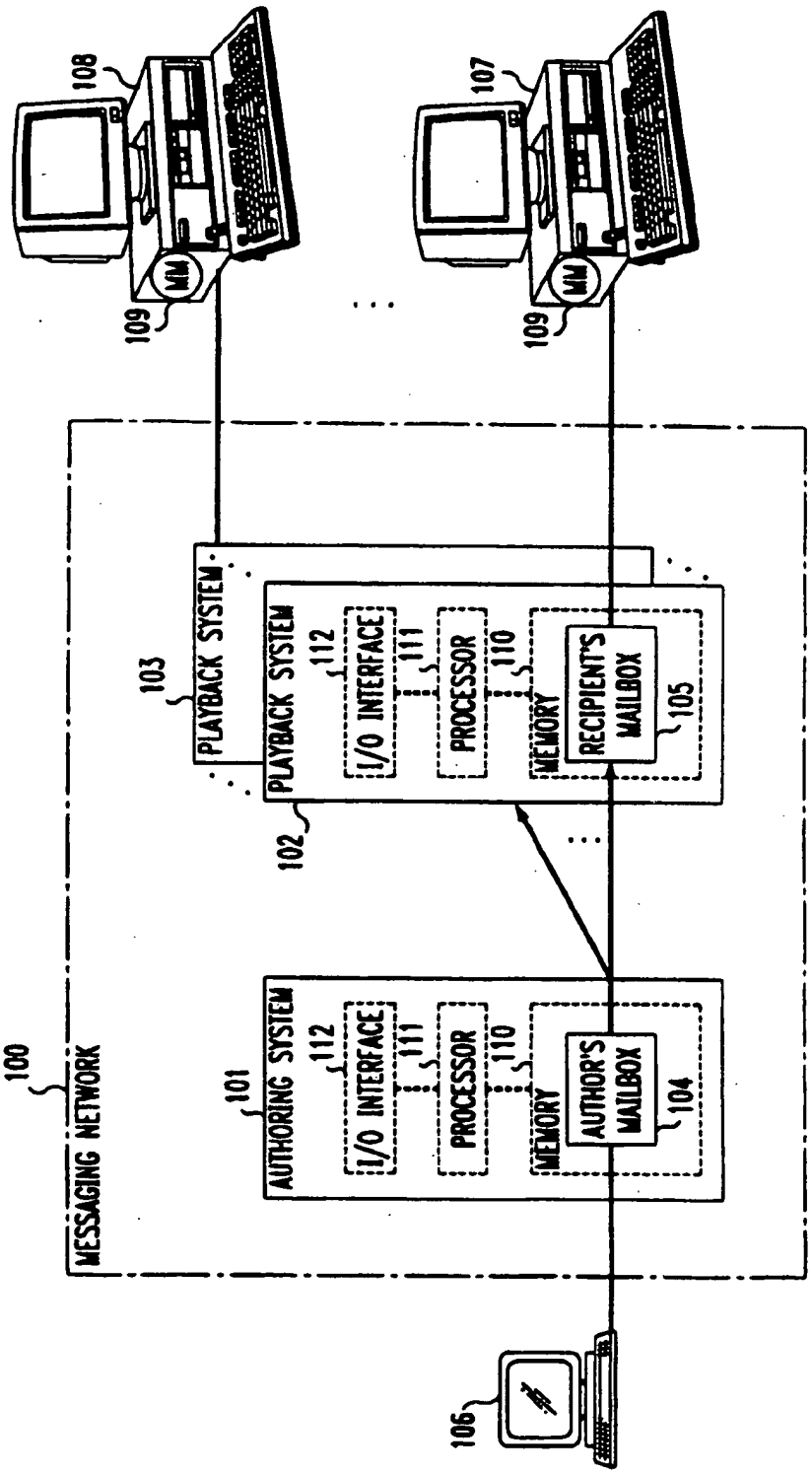

108
107
109
109
MM
MM
MESSAGING NETWORK
100
AUTHORING SYSTEM
101
PLAYBACK SYSTEM
102
PLAYBACK SYSTEM
103
I/O INTERFACE
112
PROCESSOR
111
MEMORY
110
AUTHOR'S MAILBOX
104
RECIPIENT'S MAILBOX
105
106

FIG. 1

FIG. 4

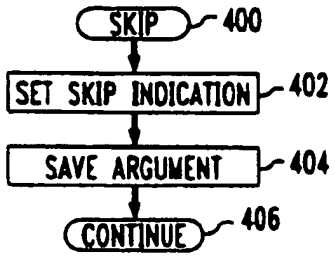
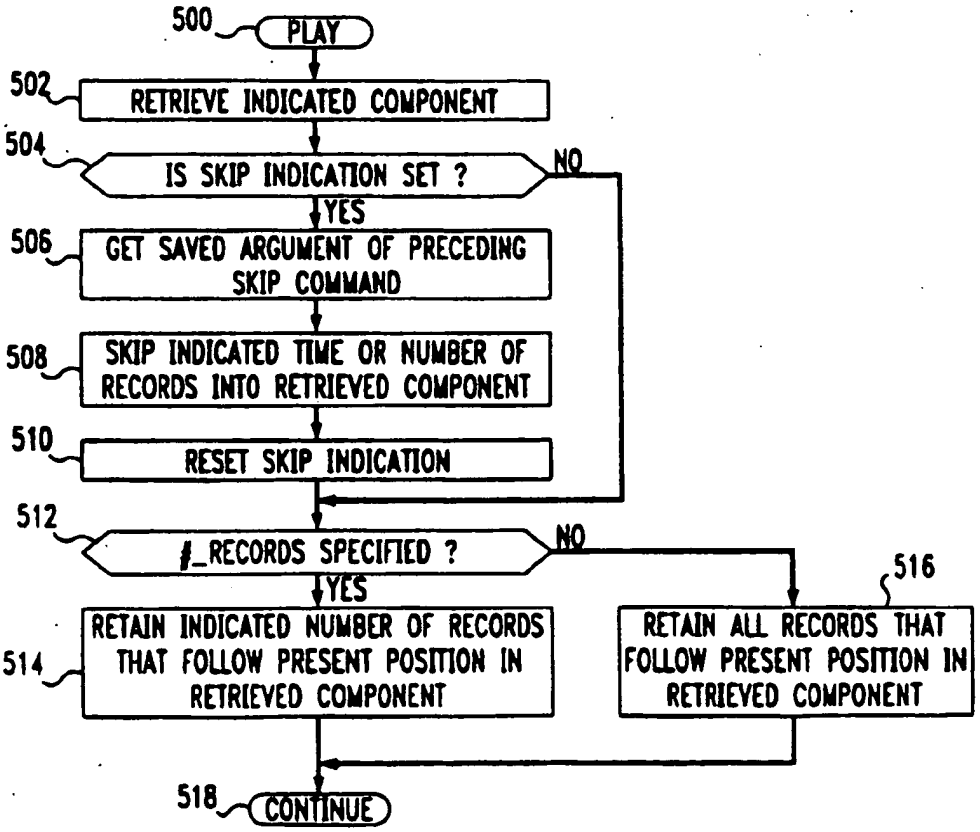

SKIP
400
SET SKIP INDICATION
402
SAVE ARGUMENT
404
CONTINUE
406

FIG. 5


500
PLAY
502
RETRIEVE INDICATED COMPONENT
504
IS SKIP INDICATION SET ?
NO
YES
506
GET SAVED ARGUMENT OF PRECEDING SKIP COMMAND
508
SKIP INDICATED TIME OR NUMBER OF RECORDS INTO RETRIEVED COMPONENT
510
RESET SKIP INDICATION
512
#_RECORDS SPECIFIED ?
NO
YES
516
514
RETAIN INDICATED NUMBER OF RECORDS THAT FOLLOW PRESENT POSITION IN RETRIEVED COMPONENT
RETAIN ALL RECORDS THAT FOLLOW PRESENT POSITION IN RETRIEVED COMPONENT
518
CONTINUE

(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 788 065 A3

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
29.10.1997 Bulletin 1997/44

(51) Int Cl.[6]: **G06F 17/30**, G06F 17/60

(43) Date of publication A2:
06.08.1997 Bulletin 1997/32

(21) Application number: **97300369.2**

(22) Date of filing: **21.01.1997**

(84) Designated Contracting States:
DE ES FR GB IT

(30) Priority: **02.02.1996 US 590031**

(71) Applicant: **LUCENT TECHNOLOGIES INC.**
Murray Hill, New Jersey 07974-0636 (US)

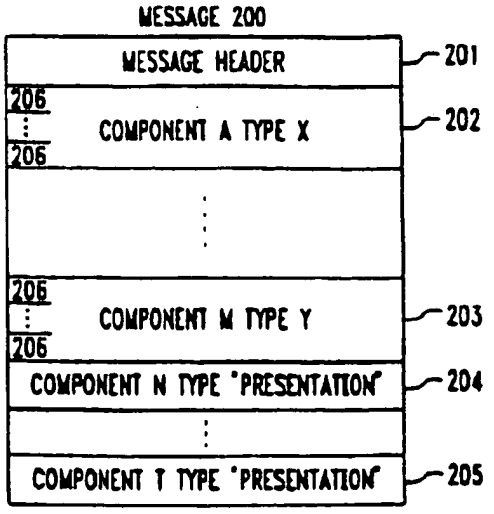
(72) Inventor: **Jennings, Terry Don**
Westminster, Colorado 80020 (US)

(74) Representative: **Johnston, Kenneth Graham et al**
Lucent Technologies (UK) Ltd,
5 Mornington Road
Woodford Green Essex, IG8 OTU (GB)

(54) Apparatus and method for specifying presentation of multimedia message components

(57) A new type of message component (204, 205) enables message creators to specify, inside of a message (200), how the body components (202-203) of the message are to be presented to message recipients; multiple such components enable multiple presentations to be specified for a single message. Included in the message by the message creator as one or more message components (204, 205) of type "presentation", each presentation component specifies the order, durations, and any concurrency, of presentation of the message's body components. Each presentation component is a script that, upon its invocation (300) by the message recipient, executes (302-318) on the recipient's message-presentation equipment (102, 107) and presents the message's body components to the message recipient in the order and for the durations specified, and presents concurrently any body components -- typically ones expressed in different media -- that are specified to be presented concurrently.

FIG. 2



EP 0 788 065 A3